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(Suppl. 1)

NASA THESAURUS SUPPLEMENT

MARCH 1989

A four part cumulative
supplement to the 1988 edition
of the *NASA Thesaurus*.

National Aeronautics and
Space Administration

Office of Management

Scientific and Technical
Information Division

1989

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INTRODUCTION

Contents of the Supplement

The *NASA Thesaurus Supplement* is a cumulative update of the 1988 edition of the *NASA Thesaurus, NASA SP-7064*. Supplements are normally published every six months. Users should consult the online thesaurus for complete and up-to-date information.

Part 1 of the *Supplement* updates Volume 1 of the *1988 NASA Thesaurus*, the *Hierarchical Listing*. Complete hierarchies of all new terms are given. Changes in the hierarchies of terms are not included in order to control the size of the *Supplement*.

Part 2 updates Volume 2 of the *1988 NASA Thesaurus*, the *Access Vocabulary*. All new terms are listed in alphabetical order along with USE references (permuted forms of posting terms and other cross-references). Uppercase-lowercase information is now provided in Part 2.

Part 3 is a list of supplemental definitions of *NASA Thesaurus* posting terms, updating Vol. 3 of the *NASA Thesaurus*.

Part 4 is a list of changes. Users requiring additional information should consult the *1988 NASA Thesaurus*.

Comments about the *NASA Thesaurus* and the *Supplement* should be addressed to: Lexicographer, NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, MD 21240.

Thesaurus Term Definitions

Publication of *NASA Thesaurus* definitions began with *Supplement 1* to the *1985 NASA Thesaurus*. Beginning with the 1988 edition, definitions were published as Volume 3 of the *NASA Thesaurus*. Succeeding *Supplements* will contain only new definitions added after the publication of the 1988 edition.

Definitions are given for most terms added since 1976 as well as for many earlier terms. Definitions of more common or general scientific terms are given a NASA slant if one exists. Certain terms are not defined as a matter of policy: common place names, chemical elements, specific models of computers, and non-technical terms. Other terms lack definitions because the *NASA Thesaurus* predates by a number of years the systematic effort to define terms. Nevertheless, definitions of older terms are continually being added.

The following data are provided for each definition: term in uppercase-lowercase form, definition *per se*, source, and year the term (not the definition) was added to the *NASA Thesaurus*. The NASA History Office is the authority for capitalization in satellite and spacecraft names.

Sources of Definitions

Definitions with no source given were constructed by lexicographers at the NASA Scientific and Technical Information (STI) Facility, who rely on the following sources for their information: experts in the field, literature searches from the NASA STI database, and specialized references.

Definitions come from the following sources:

ASTM. *Compilation of ASTM Standard Definitions*, 6th edition. Philadelphia, PA, ASTM, 1986. Copyright, the American Society for Testing and Materials (ASTM). All rights reserved. Used with the permission of ASTM. Two ASTM sources are distinguished: standards are identified by an alphanumeric designation with no hyphen; committees are identified by an alphanumeric designation with a hyphen. The original definitions appeared in the *Annual Book of ASTM Standards*.

DOE. *Energy Data Base Subject Thesaurus* (DOE/TIC-7000-R7). Oak Ridge, TN, Department of Energy, 1987.

IEEE. *Standard Dictionary of Electrical and Electronics Terms*, Fourth ed., New York, NY, IEEE, 1988.

SP-7. *Dictionary of Technical Terms for Aerospace Use, NASA SP-7*. Washington, DC, NASA, 1965.

In some cases, definitions from these sources have been subjected to minor editorial alterations, for example, to make a definition agree in number with the NASA form of the term.

Retrospective Indexing

Since 1984 all new terms are retrospectively assigned to past database records using a method which combines automated search strategies and manual review. Record updating usually takes place within three months following the addition of a new term to the *NASA Thesaurus* and covers the period from 1968 to date.

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NASA THESAURUS SUPPLEMENT

PART 1
HIERARCHICAL LISTING

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ENERGY TRANSFER
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GS SPACE MISSIONS
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TWO DIMENSIONAL MODELS
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. **TWO DIMENSIONAL MODELS**
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. COMPUTER SYSTEMS PROGRAMS
. . OPERATING SYSTEMS (COMPUTERS)
. . . **UNIX (OPERATING SYSTEM)**

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GS CELESTIAL BODIES
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. . STONY METEORITES
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HYDROGEN PRODUCTION
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ELECTROMAGNETIC WAVE TRANSMISSION
WAVE PROPAGATION
WAVELENGTHS

NASA THESAURUS SUPPLEMENT

PART 2
ACCESS VOCABULARY

A

acoustic coupling

Advanced Very High Resolution Radiometer

aircraft, commuter
USE commuter aircraft

aligned currents, field
USE field aligned currents

Antigua and Barbuda

antimatter propulsion, matter-
USE matter-antimatter propulsion

(artificial intelligence), knowledge bases
USE knowledge bases (artificial intelligence)

Asteroid Flyby Mission, Comet Rendezvous
USE Comet Rendezvous Asteroid Flyby Mission

astrophysics, nuclear
USE nuclear astrophysics

Australian space program

AVHRR
USE Advanced Very High Resolution Radiometer

B

Barbuda, Antigua and
USE Antigua and Barbuda

bases (artificial intelligence), knowledge
USE knowledge bases (artificial intelligence)

beams, laser
USE laser beams

Bessel

Bragg cells

bulge, galactic
USE galactic bulge

bulge (galactic), central
USE galactic bulge

bulge (galactic), nuclear
USE galactic bulge

C

C (programming language)

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cells, Bragg
USE Bragg cells

central bulge (galactic)
USE galactic bulge

COD (cracks)
USE crack opening displacement

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cometary magnetosphere

commuter aircraft

compact galaxies

computational geometry

Computers, SIMD
USE massively parallel processors

(control systems), SISO
USE SISO (control systems)

coupling, acoustic
USE acoustic coupling

coupling, electromagnetic
USE electromagnetic coupling

crack opening displacement

(cracks), COD
USE crack opening displacement

CRAF Mission
USE Comet Rendezvous Asteroid Flyby Mission

currents, field aligned
USE field aligned currents

Czechoslovakian space program

D

Deployable Reflector, Large
USE Large Deployable Reflector

dimensional models, three
USE three dimensional models

dimensional models, two
USE two dimensional models

disk operating system (DOS)

displacement, crack opening
USE crack opening displacement

Djibouti

(DOS), disk operating system
USE disk operating system (DOS)

DOS (operating system), MS
USE disk operating system (DOS)

E

eclipse gratings

electromagnetic coupling

electron-positron pairs

electron-positron plasmas

epsilon turbulence model, k-
USE k-epsilon turbulence model

epsilon turbulence model, kappa-
USE k-epsilon turbulence model

F

field aligned currents

(fluids), mixing layers
USE mixing layers (fluids)

Flyby Mission, Comet Rendezvous Asteroid
USE Comet Rendezvous Asteroid Flyby Mission

G

galactic bulge

(galactic), central bulge
USE galactic bulge

galaxies, compact
USE compact galaxies

galaxies, interacting
USE interacting galaxies

(galactic), nuclear bulge
USE galactic bulge

Galileo, peculiar
USE peculiar galaxies

galaxies, ring
USE ring galaxies

galaxy interaction
USE interacting galaxies

gallery modes, whispering
USE whispering gallery modes

generation (mathematics), grid
USE grid generation (mathematics)

generation (mathematics), mesh
USE grid generation (mathematics)

geometry, computational
USE computational geometry

gratings, eclipse
USE eclipse gratings

Grenada

grid generation (mathematics)

H

hadrons

High Resolution Radiometer, Advanced Very
USE Advanced Very High Resolution Radiometer

holes (mechanics)

horizontal shear waves

horizontal shear waves
USE SH waves

horizontally polarized shear waves
USE SH waves

I

input single output systems, single
USE SISO (control systems)

intelligence), knowledge bases (artificial
USE knowledge bases (artificial intelligence)

interacting galaxies

interaction, galaxy
USE interacting galaxies

iron meteorites, stony-
USE stony-iron meteorites

Israeli space program

K

k-epsilon turbulence model

kappa-epsilon turbulence model
USE k-epsilon turbulence model

knowledge bases (artificial intelligence)

L

language), C (programming
USE C (programming language)

Large Deployable Reflector

laser beams

layers (fluids), mixing
USE mixing layers (fluids)

LDR (telescope)
USE Large Deployable Reflector

Luxembourg space program

M

magnetosphere, cometary
USE cometary magnetospheres

magnetospheres, pulsar
USE pulsar magnetospheres

magnetospheres, stellar
USE stellar magnetospheres

Mapping Spectrometer, Total Ozone
USE Total Ozone Mapping Spectrometer

massively parallel processors

materials, optical
USE optical materials

(materials), phase separation
USE phase separation (materials)

(mathematics), grid generation
USE grid generation (mathematics)

(mathematics), mesh generation
USE grid generation (mathematics)

matter-anti- /See propulsion

Meteosat

(mechanics), holes
USE holes (mechanics)

mesh generation (mathematics)
USE grid generation (mathematics)

Mt. Tazerbac, Canyon
USE stony-iron meteorites

Mexican space program

microscopy, scanning tunneling
USE scanning tunneling microscopy

microwave signatures

Mission, Cassini
USE Cassini mission

Mission, Comet Rendezvous Asteroid Flyby
USE Comet Rendezvous Asteroid Flyby Mission

Mission, CRAF
USE Comet Rendezvous Asteroid Flyby Mission

mixing layers, (fluids)

model, k-epsilon turbulence
USE k-epsilon turbulence model

model, kappa-epsilon turbulence
USE k-epsilon turbulence model

models, three dimensional
USE three dimensional models

models, turbulence
USE turbulence models

models, two dimensional
USE two dimensional models

modes, whispering gallery
USE whispering gallery modes

MPP (computers)
USE massively parallel processors

MS DOS (operating system)
USE disk operating system (DOS)

N

Netherlands space program

nuclear astrophysics

nuclear bulge (galaxies)
USE galactic bulge

O

opening displacement, crack
USE crack opening displacement

operating system (DOS), disk
USE disk operating system (DOS)

(operating system), MS DOS
USE disk operating system (DOS)

(operating system), UNIX
USE UNIX (operating system)

optical materials

output systems, single input single
USE SISO (control systems)

Ozone Mapping Spectrometer, Total
USE Total Ozone Mapping Spectrometer

P

pairs, electron-positron
USE electron-positron pairs

parallel processors, massively
USE massively parallel processors

peculiar galaxies

phase separation (materials)

plasmas, electron-positron
USE electron-positron plasmas

polarized shear waves, horizontally
USE SH waves

positron pairs, electron-
USE electron-positron pairs

positron plasmas, electron-
USE electron-positron plasmas

processors, massively parallel
USE massively parallel processors

program, Australian space
USE Australian space program

program, Czechoslovakian space
USE Czechoslovakian space program

program, Israeli space
USE Israeli space program

program, Luxembourg space
USE Luxembourg space program

program, Mexican space
USE Mexican space program

program, Netherlands space
USE Netherlands space program

program, Spanish space
USE Spanish space program

(programming language), C
USE C (programming language)

propulsion, matter-antimatter
USE matter-antimatter propulsion

pulsar magnetospheres

Q

Qatar

R

Radiometer, Advanced Very High Resolution
USE Advanced Very High Resolution Radiometer

Reflector, Large Deployable
USE Large Deployable Reflector

Rendezvous Asteroid Flyby Mission, Comet
USE Comet Rendezvous Asteroid Flyby Mission

Resolution Radiometer, Advanced Very High
USE Advanced Very High Resolution Radiometer

resonance tunneling
USE resonant tunneling

resonant tunneling

rhodamine

ribbons

ring galaxies

S

scanning tunneling microscopy

separation (materials), phase
USE phase separation (materials)

Seychelles

SH waves

shear waves, horizontal
USE SH waves

shear waves, horizontally polarized
USE SH waves

shell stars

signatures, microwave
USE microwave signatures

single input single output systems
USE SISO (control systems)

single output systems, single input
USE SISO (control systems)

SISO (control systems)

space program, Australian
USE Australian space program

space program, Czechoslovakian
USE Czechoslovakian space program

space program, Israeli
USE Israeli space program

space program, Luxembourg
USE Luxembourg space program

space program, Mexican
USE Mexican space program

space program, Netherlands
USE Netherlands space program

space program, Spanish
USE Spanish space program

Spanish space program

Spectrometer, Total Ozone Mapping
USE Total Ozone Mapping Spectrometer

splitting, water
USE water splitting

stars, shell
USE shell stars

stars, triple
USE triple stars

stellar magnetospheres

stony-iron meteorites

stratospheric warming

system (DOS), disk operating
USE disk operating system (DOS)

system), MS DOS (operating
USE disk operating system (DOS)

system), UNIX (operating
USE UNIX (operating system)

systems, single input single output
USE SISO (control systems)

systems), SISO (control
USE SISO (control systems)

T

Telescope), LDR
USE Large Deployable Reflector

three dimensional models

TOMS
USE Total Ozone Mapping Spectrometer

Total Ozone Mapping Spectrometer

triple stars

tunneling microscopy, scanning
USE scanning tunneling microscopy

tunneling, resonance
USE resonant tunneling

tunneling, resonant
USE resonant tunneling

turbulence model, k-epsilon
USE k-epsilon turbulence model

turbulence model, kappa-epsilon
USE k-epsilon turbulence model

turbulence models

two dimensional models

U

UNIX (operating system)

urethane

V

Very High Resolution Radiometer, Advanced
USE Advanced Very High Resolution Radiometer

W

warming, stratospheric
USE stratospheric warming

water splitting

waves, horizontal shear
USE SH waves

waves, horizontally polarized shear
USE SH waves

waves, SH
USE SH waves

whispering gallery modes

NASA THESAURUS SUPPLEMENT

PART 3
DEFINITIONS

A

AC generators
Generators for the production of alternating-current power. Used for alternating current generators and alternators (generators). *IEEE 1968*

access control
Hardware or software features, operating procedures, or management procedures designed to permit authorized access to a computer system. *IEEE 1980*

Alfven waves
Use magnetohydrodynamic waves

alternating current generators
Use AC generators

alternators (generators)
Use AC generators

B

backfire antennas
Antennas consisting of radiating feeds, reflector elements, and reflecting surfaces such that the antennas function as open resonators, with radiation from the open end of the resonator. *IEEE 1968*

backlobes
Radiation lobes whose axes make angles of approximately 180 degrees with respect to the axes of the major lobes of the antennas; by extension, radiation lobes in the half-space opposed to the direction of peak activity. *IEEE 1968*

blazars
Strongly optical polarized active galactic nuclei objects exhibiting BL Lacertae-like and quasar-like characterics. *1988*

C

central processing units
The units of computing systems that include the circuits controlling the interpretation of instructions and their execution. Used for processors (computers). *IEEE 1969*

COD (cracks)
Use crack opening displacement

cold cathode tubes
Electron tubes containing cold cathodes. *IEEE 1968*

crack opening displacement
The displacement at the mouth of a crack in a material. Used for COD (cracks). *1988*

D

disk operating system (DOS)
A program with which the computer performs such mundane but useful tasks as storing, locating, and retrieving files on disk, reading the keyboard, and routing display and print information. *1988*

Doppler radar
Radar which utilizes the Doppler effect to determine the radial components of relative radar target velocities or to select targets having particular radial velocities. *IEEE 1968*

F

field aligned currents
Ionospheric and magnetospheric currents aligned along the electric field of a planet. *1989*

H

hydromagnetic waves
Use magnetohydrodynamic waves

M

magnetohydrodynamic waves
Low frequency waves in an electrically highly conducting fluid (such as a plasma) permeated by a static magnetic field. The restoring forces of the waves are, in general, the combination of a magnetic tensile stress along the magnetic field lines and the comprehensive stress between the field lines and the fluid pressure. Used for Alfven waves, hydromagnetic waves, and plasma sound waves. *IEEE 1968*

matter-antimatter propulsion
Spacecraft propulsion by use of matter-antimatter annihilation reactions. *1988*

mixing layers (fluids)
Fluid layers in which multicomponent mixing occurs. *1988*

MS DOS (operating system)
Use disk operating system (DOS)

P

pattern recognition
The identification of shapes, forms and configurations by automatic means. *IEEE 1968*

phase shift keying
The form of phase modulation in which the modulating function shifts the instantaneous phase of the modulated wave among predetermined discrete values. *IEEE 1968*

plasma sound waves
Use magnetohydrodynamic waves

processors (computers)
Use central processing units

R

riblets
Longitudinal striations forming V-shaped grooves on aerodynamic and hydrodynamic surfaces. The riblet devices act to reduce large-scale disturbances near the boundary layer. These grooves are dimensional on the order of the wall vortices and turbulent dimensions. *1988*

S

secondary radar
A radar technique or mode of operation in which the return signals are obtained from a beacon, transponder, or repeater carried by the target, as contrasted with primary radar in which the return signals are obtained by reflection from the target. *IEEE 1968*

stratospheric warming
A temperature rise in the global stratosphere. *1988*

W

wattmeters
Instruments for measuring the magnitude of the active power in an electric circuit. They are provided with a scale usually graduated in either watts, kilowatts, or megawatts. If the scale is graduated in kilowatts or megawatts, the instruments are usually designated as kilowattmeters or megawattmeters. *IEEE 1968*

whip antennas
Thin flexible monopole antennas. *IEEE 1968*

whispering gallery modes
Electromagnetic (or elastic) waves that differ in frequency by more than an order of magnitude. *1988*

NASA THESAURUS SUPPLEMENT

PART 4
CHANGES

ACCESS CONTROL
Definition replaced by IEEE definition

DOPPLER RADAR
Definition replaced by IEEE definition

MAGNETOHYDRODYNAMIC WAVES
Definition replaced by IEEE definition

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